

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A system for characterizing tissue, comprising:
a ~~generation system that generates~~ laser means for generating an emission
signal and a reference signal,

a probe that directs said emission signal to ~~said~~ the tissue,

an emission optical detector,

a reference optical detector,

Al a transmission system including an emission optical fiber that transmits
said emission signal to said probe and from said probe to the tissue, and from the
tissue to said probe and to said emission optical detector, and a reference optical
fiber that transmits said reference signal ~~in a predetermined manner relative to~~
~~said emission signal~~ to said probe and from said probe to said reference optical
detector, and

a compensation system that utilizes said reference signal to correct said
emission signal for optical fluctuations.

2. (Currently Amended) The system for characterizing tissue of claim 1,
wherein said ~~generation system generates~~ laser means generates an emission
signal that is an optical emission signal.

3. (Currently Amended) The system for characterizing tissue of claim 1, 2,
wherein said ~~generation system generates~~ laser means generates a reference
signal that is an optical reference signal and said optical reference signal is less
than 10% of said optical emission signal.

4. (Cancelled)

5. (Cancelled)

6. (Cancelled)

7. (Cancelled)

8. (Currently Amended) The system for characterizing tissue of claim 1, wherein said ~~transmission system~~ laser means includes an optical splitter that splits said emission signal and said reference signal.

9. (Currently Amended) The system for characterizing tissue of claim 1, wherein said compensation system utilizes said reference signal to correct said emission signal for optical fluctuations by reducing ~~reduces~~ the effects of emission signal source fluctuations.

10. (Currently Amended) The system for characterizing tissue of claim 1, wherein said compensation system utilizes said reference signal to correct said emission signal for optical fluctuations by compensates ~~compensating~~ for changes in transmission system efficiency.

11. (Currently Amended) The system for characterizing tissue of claim 1, wherein said compensation system utilizes said reference signal to correct said emission signal for optical fluctuations by reducing ~~reduces~~ the effects of emission signal source fluctuations and ~~compensates~~ compensating for changes in transmission system efficiency.

12. (Currently Amended) A system utilizing an optical and multisensor probe for tissue identification, comprising:

a probe for tissue identification, said probe having a first end and a distal end,

a controller, said controller comprising

a laser for producing light,

an emission optical scattering and absorption spectroscopy sensor connected to said controller and to said probe and configured to deliver and receive light from said probe,

an emission optical fiber connected to said controller and connected to said probe that extends to said distal end of said probe and connected to said emission optical scattering and absorption spectroscopy sensor.

a reference optical scattering and absorption spectroscopy sensor connected to said controller and to said probe and configured to deliver and receive light from said probe, and

a reference optical fiber connected to said controller and connected to said probe that extends ~~toward~~ to said first end of said probe but does not extend to said distal end of said probe and that is connected to said reference optical scattering and absorption spectroscopy sensor that improves said systems accuracy by reducing the effects of optical source fluctuations and changes in the fiber optic efficiency.

13. (Cancelled)

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)